The Mother of Abstract Strategy

A Complete Introduction to the Game of Go

Written by Joel Nelson

Introduction

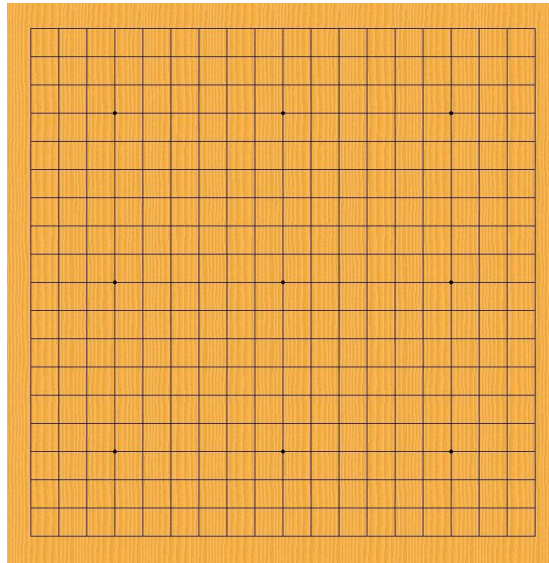*"The game of go is very easy to play, until you get the hang of it…"*

The game of go is an abstract strategy board game for two players. It is widely considered to be the deepest and most complex board game in the world and is believed to be the oldest game to date still played in its original form. From its origins in China, over 4,000 years ago, the game of go has continued to fascinate people from all walks of life and has been a captivating wonder for mathematicians throughout the ages. The name of the game, "go", stems from the Japanese word "Igo" which translates "The surrounding board game" and so the signature element of the game is the ability of the players to use their game pieces, called stones, to surround those of the opponent. There are many different myths about where and when the game was created and by whom. However, the most likely theory suggests that go evolved from the practice of Chinese military commanders who would use stones to mark out battle positions on maps and it has been suggested that this is the reason that the game so cleverly captures the essence of real life battle strategies. One key attribute of the game which sets it apart within the family of abstract strategy games is that the rules of the game, as you will soon see, could hardly be simpler and can be learned very quickly. When a new player is taught the basic objective of the game, there is a subtle temptation to view the game as almost comical, like something two children on a playground might have conceived.

However, one must not play for very long to develop an appreciation for the astonishing depth of complexity that lies within the strategy of the game. This is a growing appreciation that deepens as a player's understanding of all the subtle nuances and intricacies increase such that the strongest player's in the world claim to be far from mastery and find themselves just as puzzled at the game as anyone else. Continue reading for an entire introduction to the basic elements of this marvelous game and be prepared to be challenged in a way like never before. Suitable for anyone from small children to the elderly, this game is sure to entertain for a lifetime, anyone who enjoys a challenge.

Chapter One:
The Rules of Game Play

The game of go is played across a board which displays a simple grid of lines, 19 across and 19 over. The following is an aerial view of an empty go board before the first move of the game has been played:

The 19x19 board size is the standard and you will seldom see competitive players using anything else as this has been the custom for at least 2,000 years. However, it is often recommended that beginners of the game start with the much smaller 9x9 size. This is done to allow the beginner to focus on the rules and basic concepts without having to be daunted by the sheer complexity of move options afforded on the full size board. Once a player has demonstrated a working understanding of the basic elements of game play, it is then best to spend some time on a 13x13 board which is a nice in-between before moving onto the full expansive reality of the 19x19 go board. Smaller boards are also convenient for occasions when players are short on time and want to play through a game quickly.

At the start of the game, each player is equipped with a bowl containing 180 identical stones:

One player uses black stones while the other player plays the white stones. The player who plays black has the privilege of making the first move, followed by white and play continues with consecutive moves back and forth. On each players turn, they have the option of laying a maximum of one stone on the board or simply passing their turn and doing nothing. When a stone is played, it is placed on one of the intersections where the lines cross one another. Therefore, every intersection you see on the go board represents a potential move and once a stone is placed on an intersection, it cannot be moved to anywhere else under any circumstances. However, stones may be captured and removed from the board if certain conditions are not met regarding those stones.
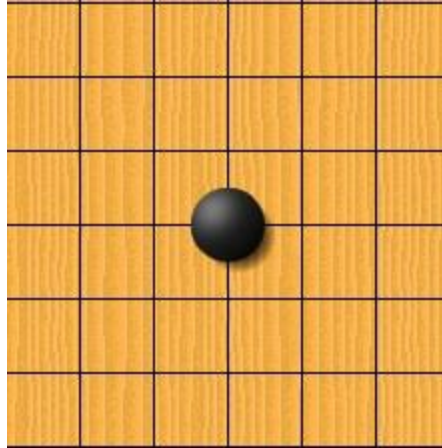
Note that the nine black dots or "star points" you see around the board are only there to help a player visually navigate their place on the board; those intersections are not special and can be played the same as any other intersection. The game begins with the empty board as shown and continues as the board is filled up with stones until the outcome of the game is agreed upon by both players. The object of the game is to take control of more of the board than your opponent by using your stones collaboratively to lay claim to separate areas of the board. As you learn to play, you'll learn different ways to arrange your stones such that your opponent is unable to capture them giving your stones a permanent place in the board position. **The winner is the player who can get the most stones permanently placed on the board.** This means placing the most stones that your opponent us unable to capture and remove from play.

Now that we've talked about the format in which the game is played, let's talk about the three rules which dictate what a player must do to create a infrastructure of stones which cannot be altered and we'll learn what conditions must be met regarding a players stones in order for them to remain in play.
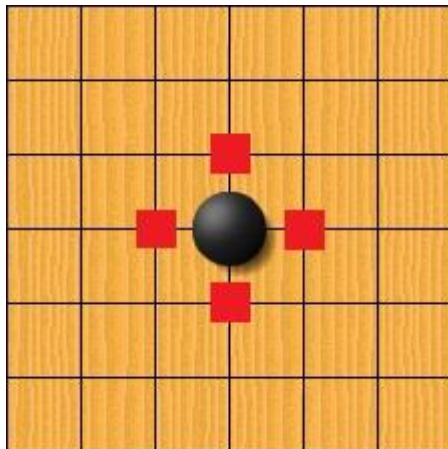
<u>The Three Rules of Stone Placement</u>

When considering the best place on the board to place a stone, a player must mind two basic rules that govern the interaction between stones as well as a third auxiliary rule which is necessary to prevent an endless game. Note that there are no sub rules, odd exceptions or limited applications of the following rules.

The first two rules of stone placement are concerned with the relationships between stones on the board and dictate the basic requirements for a stone to remain in play. When a player places a stone somewhere on the board such as the stone below which has just been played by black where the stone is not in direct contact with a previously placed stone, that stone takes dominion of that intersection and is said to be controlling it.
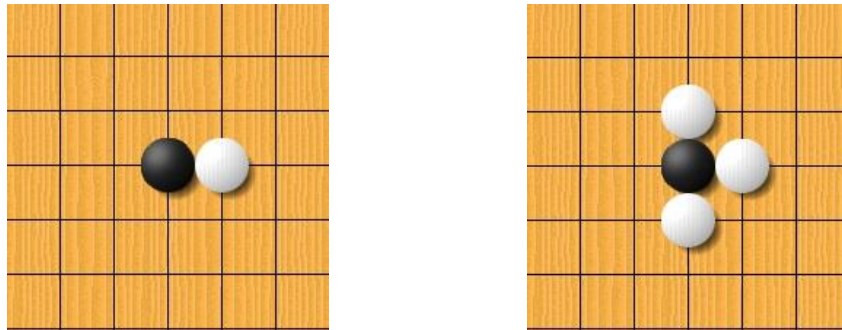
       Now as you learn to play the game of go, you'll come across several different terms and jargon used between players to communicate what's taking place on the board. These terms are similar to the terms used by musicians to communicate theoretical musical ideas in that while they are necessary to communicating with other players, they are certainly not going to develop your understanding of the game nor hinder it. That being said, the first piece of jargon that we have to learn is the term "liberty" and it's very important. When a stone is placed on the board, such as the ones above and below, the four intersections located directly adjacent to that stone are called that stone's liberties. The liberties of the following stone are marked in red. A liberty is **a vacant intersection located directly adjacent to a stone**. Notice that the intersections located diagonally to the stone **are not** counted as liberties.
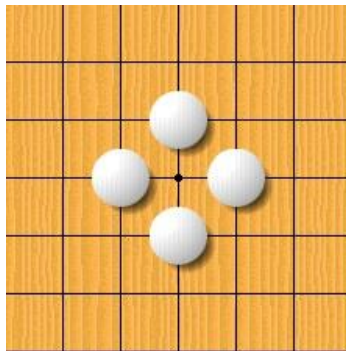

       So now that you understand what a liberty is, we'll now talk about what happens when either player chooses to place a stone upon the liberty of a previously played stone.
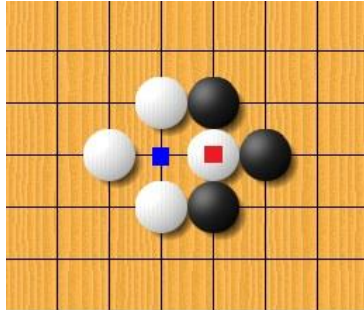
When a player places a stone upon the vacant liberty of another stone on the board, something very important is changed about the position of that stone. The first rule of stone placement states that when your opponent chooses to place stones on the liberties of your own stones, those **intersections taken by your opponent can no longer be claimed as your liberties**. So in the following diagram on the left, the black stone now only has three liberties as a result of white's move and in the diagram on the right, the black stone is deprived of three of its four liberties, leaving it with only one.

When a stone is in such a state as the black stone in the diagram on the right, the term we use to describe this is called "Atari", a word which roughly translates "captured on the next move." That's because if white chooses on his next move to take the last liberty enjoyed by black then the black stone will be captured and removed from the board. Once a stone is removed, it may be returned to its owner to be used on a future move. What's important is that you understand that **every stone, in order to be placed on the board, and in order to remain on the board, must at all times enjoy at least one liberty.** The following picture demonstrates what the board will look like after white makes his capturing move and removes the black stone.
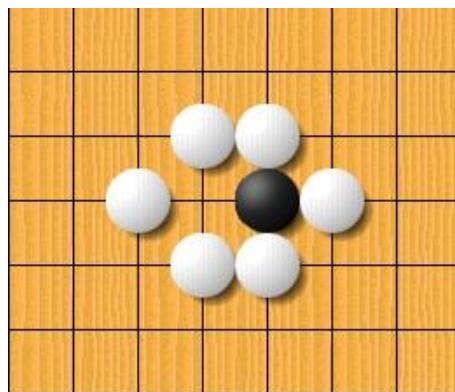
Note that the black player is now capable of playing anywhere on the entire board EXCEPT inside of the four white stones due to the fact that a stone placed there would not be able to claim a liberty, making that an invalid move. However, note that in the following picture, the position is quite different:
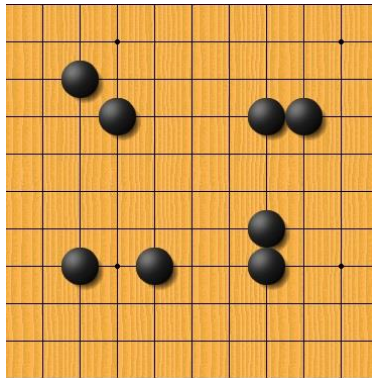

In this position, black is using his stones to deprive the white stones of their needed liberties as well such that the marked white stone is in Atari, claiming only one liberty marked in blue. If it's black's turn, black is allowed to play on the intersection marked with blue because as soon as black makes this move, he will capture the marked white stone, giving his newly laid stone its needed liberty. In other words, when a player makes a move that deprives his opponent's stone of its last liberty, that player is to **first** remove his opponent's stone from the board. If after removing the enemy stone from the board, the player is still left with a stone on the board that does not enjoy a liberty then the move made by that player would have been invalid.

Lastly, take note of the fact that in the following picture, the black stone is completely surrounded yet remains on the board due to the fact that it still enjoys a liberty. **A stone must be deprived of all liberties before being removed from play**.
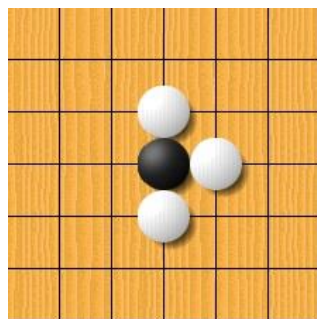
The second rule of stone placement dictates what happens when a player chooses to place a stone on the liberty of his own stone. We learned in rule number one that when an enemy stone is placed on the liberty of one of our own stone, we are no longer able to claim that liberty.

However when a player places his stones adjacently together, they form a connection and are then treated as a single unit, sharing the liberties that each stone possesses.
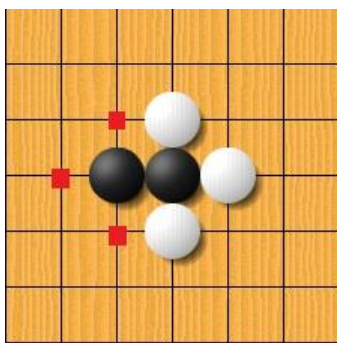

In the picture above, black has four different sets of stones. However, you'll notice that the relationship between them is quite different. In the upper left, we have two stones that lay diagonally to each other. In the bottom left, we see two stones that lay adjacently to each other, yet not directly adjacent. Because of this, none of these four stones on the left side of the board have been placed on each other's liberties (remembering that diagonal intersections to a stone are not liberties). Therefore, there is nothing special to mention about these four stones in regard to the second rule of stone placement.

The four stones on the right side, however, are placed into two separates groups of stones. A "group" is another term to learn and utilize because this is how players refer to multiple stones of the same color that are adjacently connected. When a player places two or more stones directly adjacent to one another, those stones then become connected in that they share liberties with one another and therefore cannot be captured separately from one another. Look below at the diagram from before which depicts a black stone in Atari and therefore under threat of capture on white's next move:
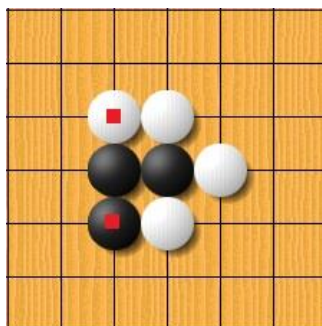
However, if it is black's turn to move and the black player is reluctant to give this stone up, he may "extend" the stone by playing on its last liberty, thereby creating a two stone group which now enjoys three more liberties as indicated below.
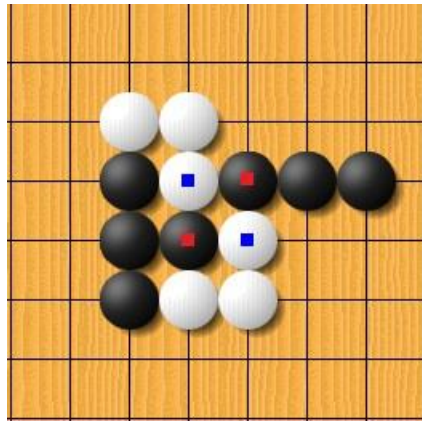

The two black stones are now treated as a single unit and therefore white must take up the remaining three liberties in order to capture. If the white player manages to play on all six of the liberties then both of the black stones will be captured simultaneously.

Therefore, play might continue on such as below where white has attempted to continue surrounding the black stones by playing the marked stone and black has responded by "turning", adding another stone to the group and thereby acquiring more liberties.

The rule of connections places no limits on the amount of stones that one can connect. Regardless of how large the group becomes, all that is required for it to remain on the board is that it enjoy one liberty. Therefore, you'll quickly find that your formations of stones are strongest when they share a connection given that fewer liberties are then needed to prevent the capture of the stones. It stands to reason that the fundamental strategy is to consistently make moves that aid in the connections of your own stones while threatening the connections of your opponents'. There will be far more information on "connecting and cutting" in chapter three but for now, take a look at the position below:
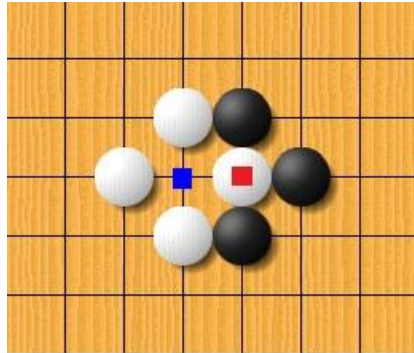
Remembering that diagonal relationships do not count as connections between stones, we see that the stones in the diagram above have been cut into two separate groups of each color. The marked black stones are at a diagonal along with the marked white stones meaning that they do not share a connection and therefore represent separate groups of stones. This means that they do not share liberties with one another and can be capture separately. You're development as a go player will be heavily dependent upon your ability to properly manage the potential cuts in your position while continually challenging your opponent's connections. Be careful though because as you may have noticed in the diagram above, whenever you cut your opponent's stones, he will likewise be cutting yours!
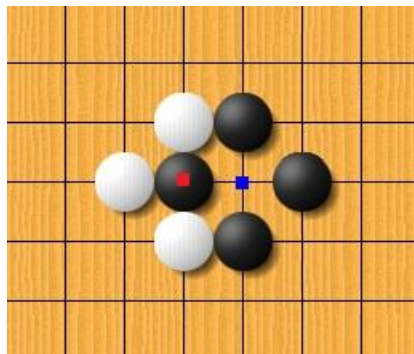
 (Here's a fun term: a large group of connected stones is often referred to as a dragon! Capturing one of these beasts makes for a proud day in the life of any go player.)

The third and final rule of stone placement is an auxiliary rule which requires that the game must remain finite and forbids endless loops. This is necessary because there are certain fighting positions that will often arise in game play such that if neither player were willing to concede the position, the game could continue
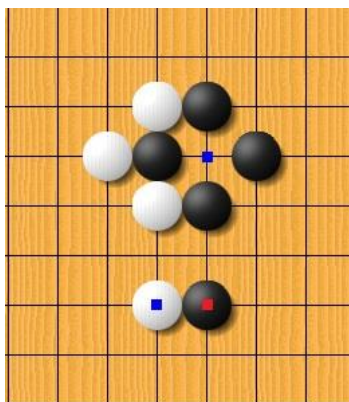
on forever without progressing or deeming a victor. Thus the third rule is called the rule of ko and strictly forbids such positions. According to the rule of ko, it is illegal for a player at any time in the game to make a move that would cause an exact position of the board to be repeated a second time. Let's go back to the diagram given during the explanation of the liberty rule:

As explained before, in the diagram above, the marked white stone is in Atari and black can capture it by playing at the marked intersection. So let's say that black makes this move and removes the marked white stone. The following picture is what the board would then look like.

As you can see, the white stone has been removed. But notice now that the black stone marked in red which has just been placed is now in Atari as well such that white could play on the marked intersection and capture it. Well, as you can tell, the position that would result from white making this move would be identical to the previous picture before black captured. Therefore, the rule of ko forbids white from making this move. Before white can capture this stone, he must first make a move somewhere else on the board. The following diagram shows where white has done this by playing the marked stone and black has responded to the move made by white:

Now when you look at the position, you will notice that something has changed with the addition of the two marked stones. Therefore, white can now freely capture the black stone in Atari without repeating a board position and will therefore not violate ko. Note however, that black doesn't necessary have to follow white in playing the marked stone. Instead, black could have placed a stone on the intersection marked in blue himself and protected his stone from capture. This brings us to one of the most exciting facets of the game of go: ko fighting. I'm not going to labor into the details of the strategy behind ko fights given that this is only a mere explanation of the rule itself, but I will mention that if white is serious about capturing that black stone in Atari, then that move he made elsewhere in order to alter the board to satisfy ko needs to be such a move that black would need to respond to it in order to defend another stone or group somewhere else. A move such as this is called a ko threat and will be the topic for discussion in the chapter on the strategy behind winning ko fights.

So there you have it! You now know the method for achieving victory in a game of go. You're now ready to plunge into the endless study of battle strategies that will put these rules to their best use. As a last note, I will mention that there is one other stipulation that is commonly found in the game yet is also optional:

Due to the fact that the player who plays the white stones is at a disadvantage because he moves second after black, it is common for the objective of the game to be slightly altered in order to compensate white for his second move. As I told you before, the object of the game is to place the most stones on the board without them getting captured and removed. Well, black's first move advantage can be balanced out by restating the objective as follows: Black must get X number of stones more than white on the board in order to win. The value of X can change depending on the event and the skill level of the players but it's typical to give white a compensation of seven stones meaning that black must get eight more stones than white on the board in order to win. Also, as a final compensation, it's very common for players to agree that any game ending in a draw will be awarded as a victory to white. Though the game of go is ages old, this

concept of compensating white has only been put to use in the last century and is widely agreed upon as a necessary feature to create a more balanced game between the competitors.